FIG. 1A (PRIOR ART)

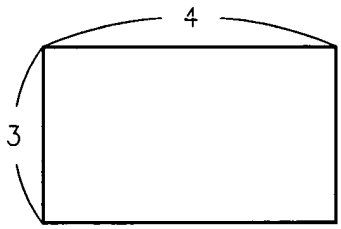


FIG. 1B (PRIOR ART)

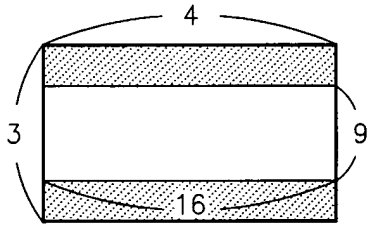


FIG. 1C (PRIOR ART)

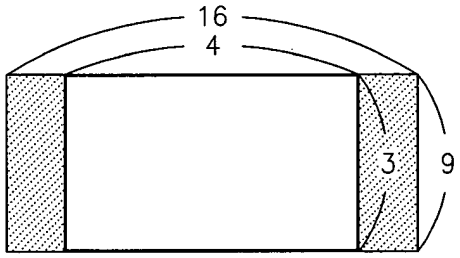


FIG. 1D (PRIOR ART)

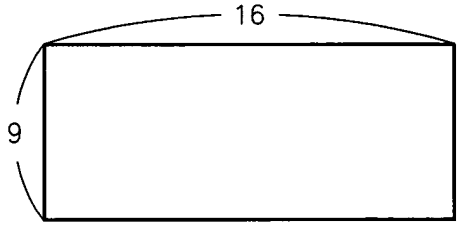


FIG. 2A (PRIOR ART)

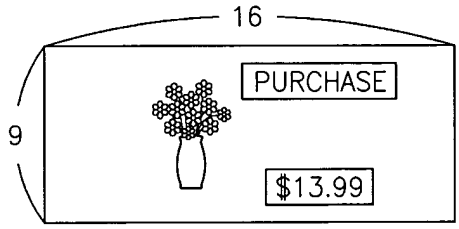


FIG. 2B (PRIOR ART)

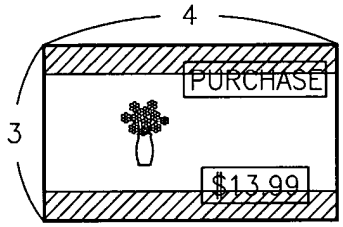


FIG. 3

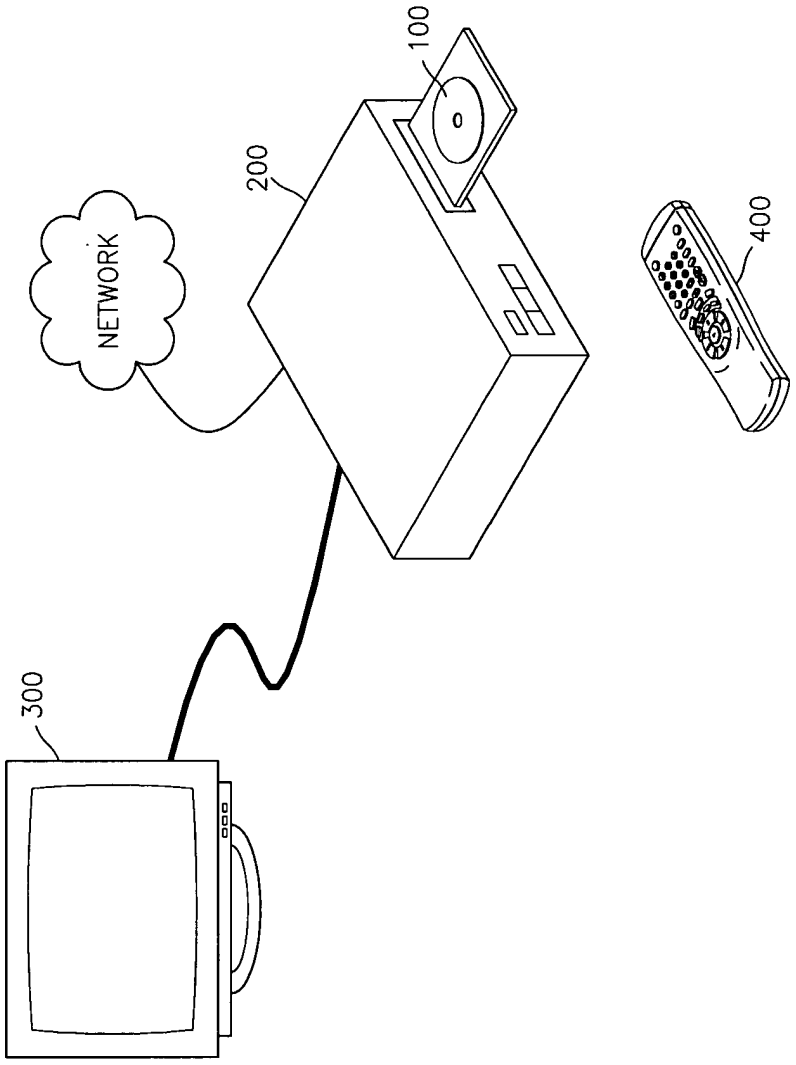


FIG. 4

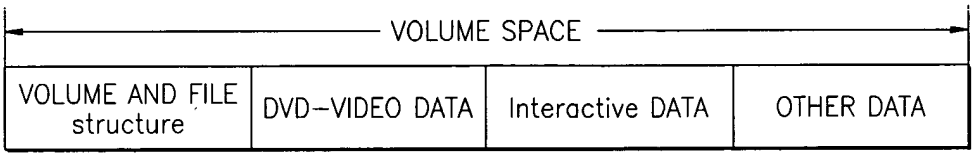

VOLUME SPACE
VOLUME AND FILE structure
DVD-VIDEO DATA
Interactive DATA
OTHER DATA

FIG. 5

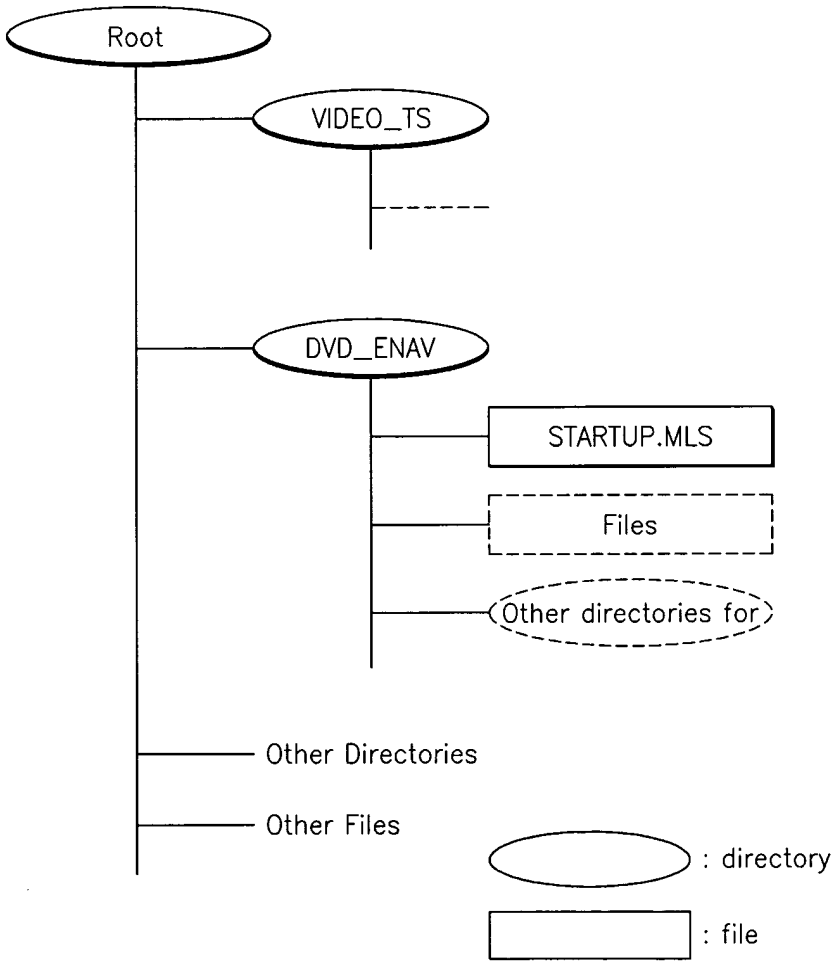

Root
VIDEO_TS
DVD_ENAV
STARTUP.MLS
Files
Other directories for
Other Directories
Other Files
: directory
: file

FIG. 6

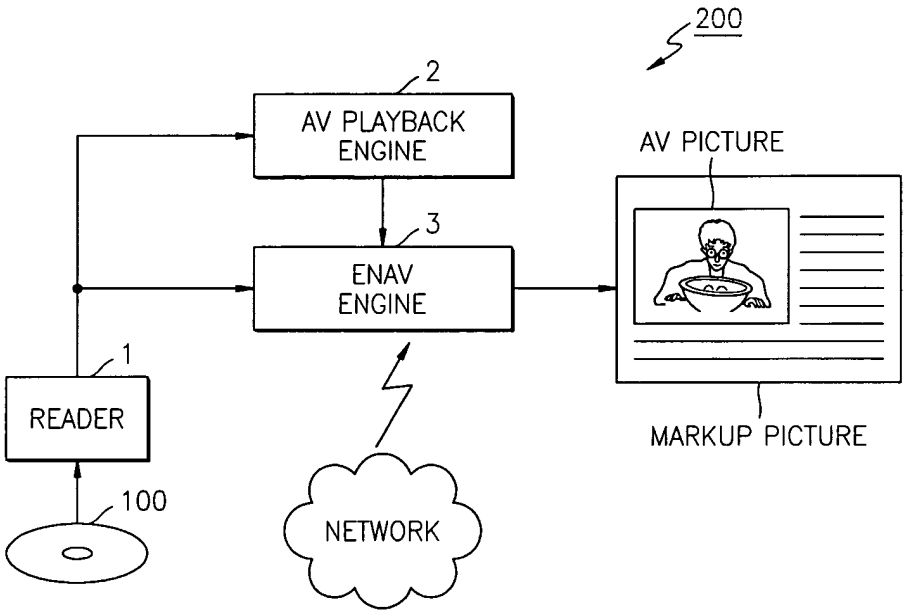

200
2
AV PLAYBACK ENGINE
AV PICTURE
3
ENAV ENGINE
1
READER
100
NETWORK
MARKUP PICTURE

FIG. 7

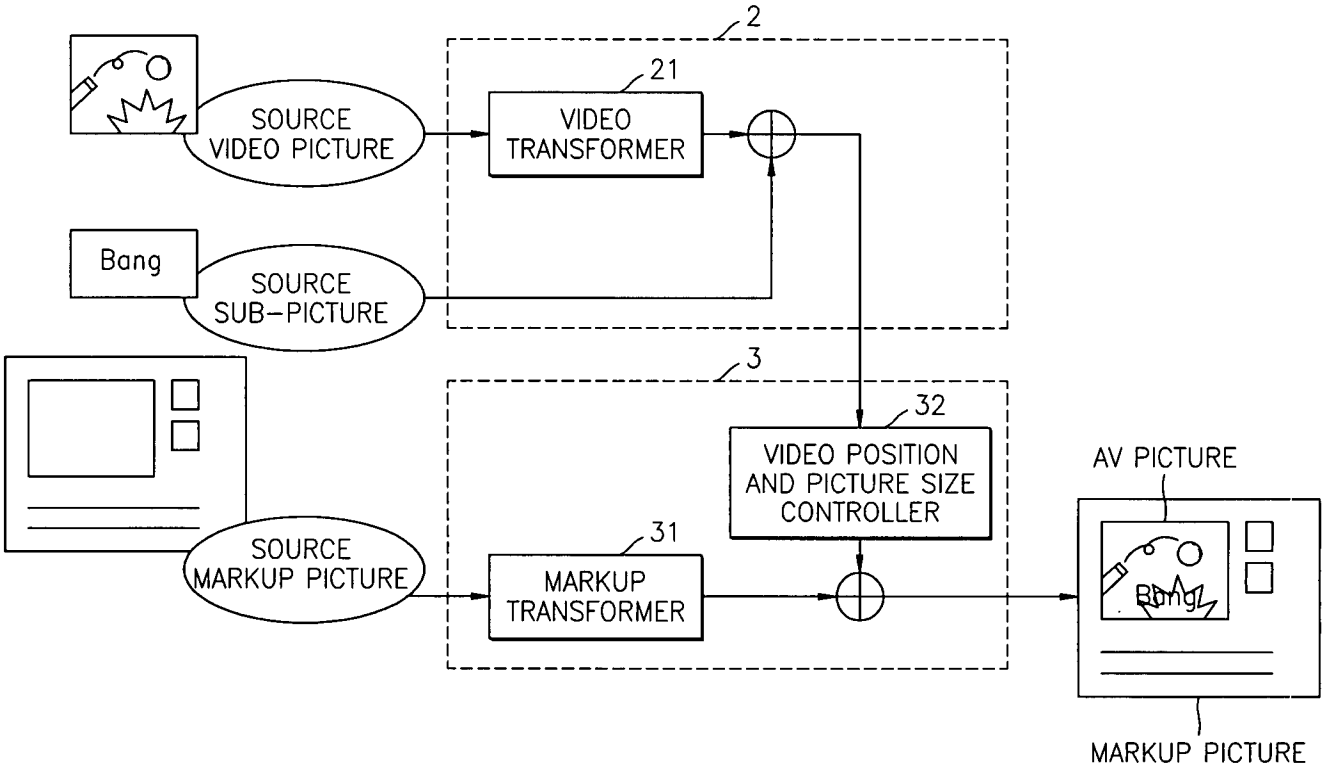

2
21
SOURCE VIDEO PICTURE
VIDEO TRANSFORMER
Bang
SOURCE SUB-PICTURE
3
32
VIDEO POSITION AND PICTURE SIZE CONTROLLER
AV PICTURE
31
SOURCE MARKUP PICTURE
MARKUP TRANSFORMER
Bang
MARKUP PICTURE

FIG. 8

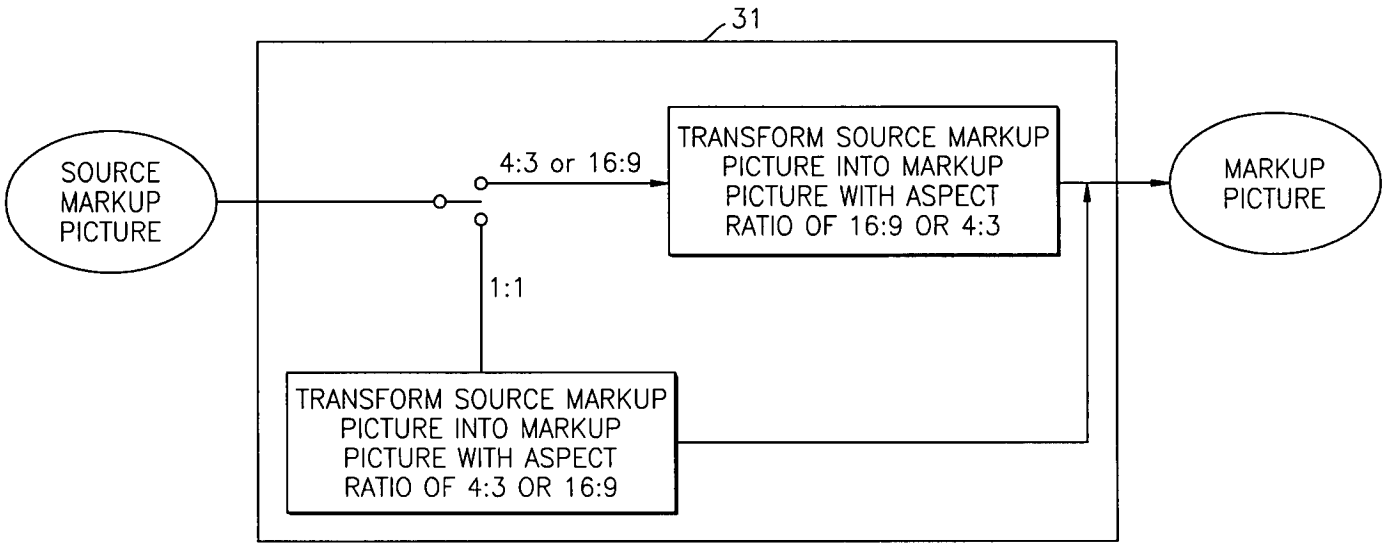

31
SOURCE MARKUP PICTURE
4:3 or 16:9
1:1
TRANSFORM SOURCE MARKUP PICTURE INTO MARKUP PICTURE WITH ASPECT RATIO OF 16:9 OR 4:3
TRANSFORM SOURCE MARKUP PICTURE INTO MARKUP PICTURE WITH ASPECT RATIO OF 4:3 OR 16:9
MARKUP PICTURE

FIG. 9

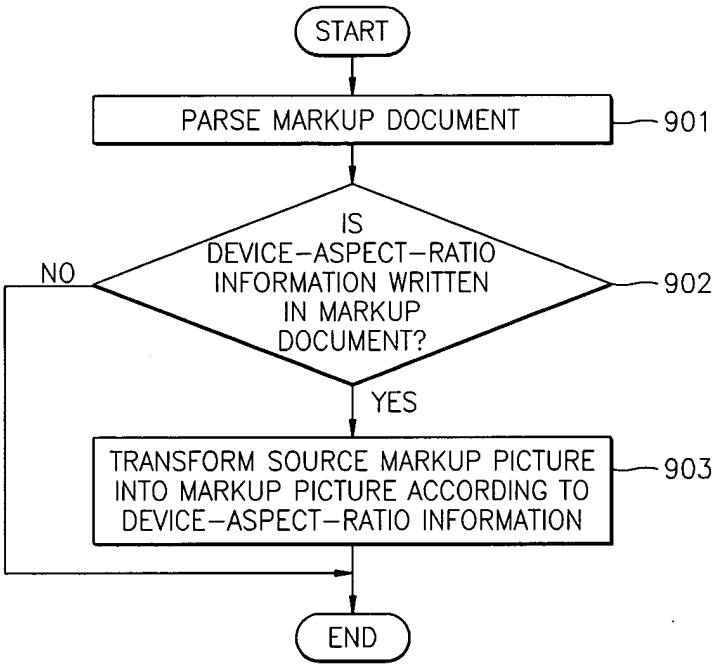
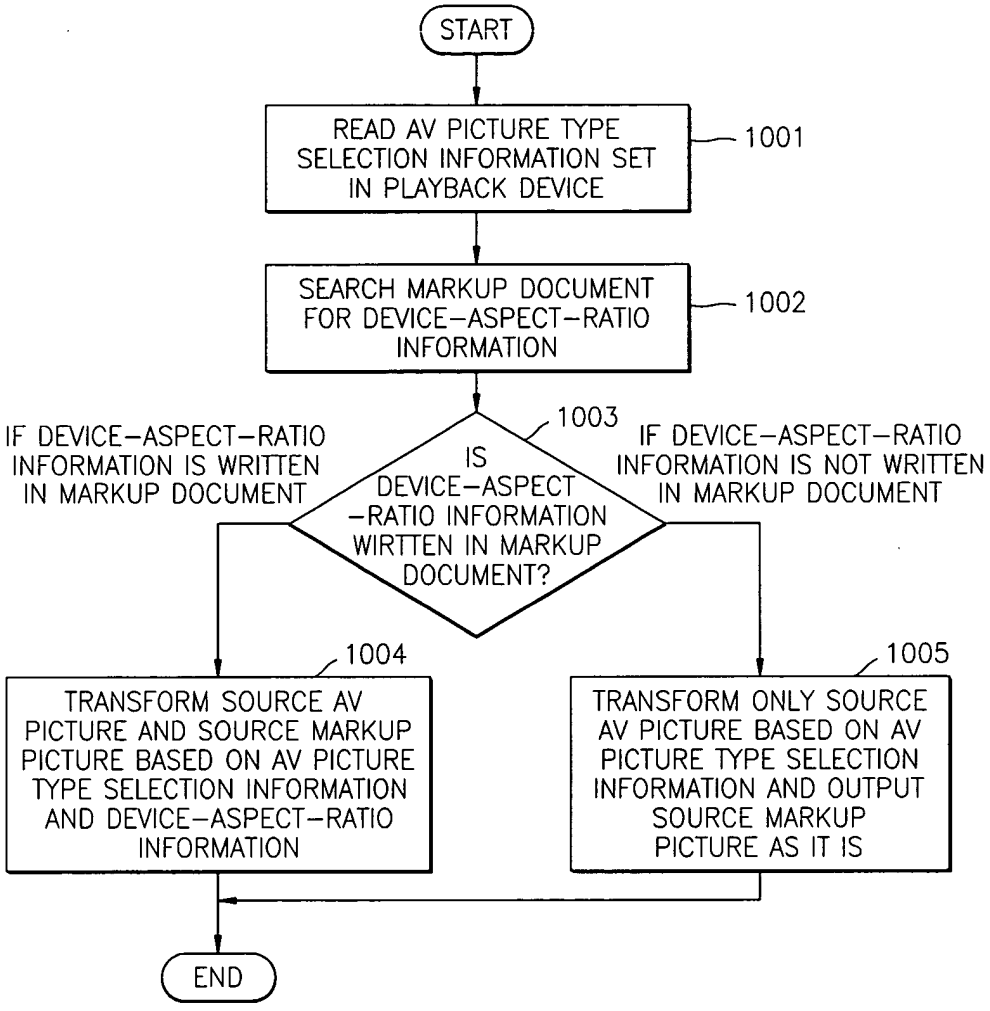

START
PARSE MARKUP DOCUMENT
901
IS DEVICE-ASPECT-RATIO INFORMATION WRITTEN IN MARKUP DOCUMENT?
902
NO
YES
TRANSFORM SOURCE MARKUP PICTURE INTO MARKUP PICTURE ACCORDING TO DEVICE-ASPECT-RATIO INFORMATION
903
END

FIG. 10


START
READ AV PICTURE TYPE SELECTION INFORMATION SET IN PLAYBACK DEVICE
1001
SEARCH MARKUP DOCUMENT FOR DEVICE-ASPECT-RATIO INFORMATION
1002
1003
IS DEVICE-ASPECT-RATIO INFORMATION WIRTTEN IN MARKUP DOCUMENT?
IF DEVICE-ASPECT-RATIO INFORMATION IS WRITTEN IN MARKUP DOCUMENT
IF DEVICE-ASPECT-RATIO INFORMATION IS NOT WRITTEN IN MARKUP DOCUMENT
1004
TRANSFORM SOURCE AV PICTURE AND SOURCE MARKUP PICTURE BASED ON AV PICTURE TYPE SELECTION INFORMATION AND DEVICE-ASPECT-RATIO INFORMATION
1005
TRANSFORM ONLY SOURCE AV PICTURE BASED ON AV PICTURE TYPE SELECTION INFORMATION AND OUTPUT SOURCE MARKUP PICTURE AS IT IS
END